

and we take as a sample, selected almost at random, the accompanying cut of Sahara foxes, or fennecs.

In regard to classification, so far as vertebrates at any rate are concerned, the author follows in the main some of the older schemes, especially in the case of birds, and in this, we think, he is well advised. We cannot, however, agree with him in making a special "order" for the lemurs, especially in view of the recent investigations of Dr. Forsyth Major and Prof. Elliot Smith. We are, moreover, somewhat surprised to find no mention of the okapi under the heading Giraffidæ, and the statement that the giraffe is the sole living representative of that family. Naturalists will be still more surprised to find the African *Anomalurus* classed as a member of the squirrel family, and no mention made of the fact that it has a relative unprovided with a flying-membrane. Again, it is quite

credited, we presume, to the printer's "devil." The want of an index is a serious drawback to a volume which in most respects is full of interest. R. L.

NOTES.

It is now more than a quarter of a century ago that the Duke of Devonshire's Royal Commission on Science, among its many important recommendations, few of which have been taken advantage of either by the then or subsequent Governments, urged the importance of the creation of a body of scientific advice which should bring all departments in close touch with the progress of science. We warmly congratulate Lord Curzon upon the steps he has recently taken to extend the many benefits of such a body to the Indian Empire. We reprint elsewhere the text of a resolution of the Indian Government which has recently appeared in the *Gazette*, and we may hope that in a few more decades the matter may be considered by the Government of Great Britain, in which certainly such a council is as much required as in India.

THE Prince Auguste D'Arenberg, Mr. Chamberlain, and Sir Archibald Geikie, F.R.S., have been elected honorary members of the Institution of Civil Engineers.

A LAHORE correspondent of the *Pioneer Mail* states that the Kanwar Sahib of Patiala has made a free gift of his house at Kasauli to the Pasteur Institute at that place, with the object of its being devoted to the purposes of that institution.

THE *Times* correspondent at Rome reports that the King and Queen of Italy were present on April 13 at the inaugural meeting of the International Congress of Agriculture. The congress, which is attended by representatives from many countries, will sit in Rome until April 18, when it will start on a tour of three weeks through Italy and Sicily.

REUTER reports that an eruption of the volcano Del Tierra Firme (Colombia), near Galera de Zamba, occurred on March 22 by which the village of Tiojo was destroyed. Brightly illuminated clouds, giving rise to the appearance of flames, were seen above the volcano on the night of March 24 by ships passing sixty miles off the coast.

SIR W. T. THISELTON-DYER, K.C.M.G., has sent us a copy of a letter from Mr. H. Powell, the curator of the Botanic Station at St. Vincent, to Dr. D. Morris, the Imperial Commissioner of Agriculture for the West Indies, as an official report upon the eruption of the Soufrière on March 22; he has also sent a cutting from the *Barbados Advocate* of March 28 describing some of the phenomena of the eruption. Mr. Powell reports that the clouds of stones, ashes, &c., were of stupendous size, and rose to enormous heights, similar to those of May 7, 1902. The noise on March 22 was, however, far less than on May 7, and the electric display was very little. At 11.30 a.m., and again at 12.30 p.m., on March 21 last, huge volumes of vapour were seen ascending from the crater, and at about 6.30 next morning the serious eruption commenced, and continued during the morning and most of the afternoon.



FIG. 1.—Sahara Foxes. (From "The Natural History of Animals.")

against modern usage to place the American mice and rats in the same genus (*Cricetus*) as the hamster. Neither is it correct to call the Indian elephant *Euelephas*, while the statement (p. 108) that the hippopotamus has only two upper incisors is inaccurate.

Although we by no means agree in many instances with the author's practice in regard to nomenclature, yet this is to so great an extent a matter of opinion that we forbear criticism. There can, however, be no excuse for describing the Indian rhinoceros in the text (p. 106) as *Rhinoceros unicornis*, and in the plate and its accompanying note as *R. indicus*, or for styling (p. 122) the llama *Lama lama* in the text and *Auchenia lama* in the plate and its explanation. *Lamaguanacus* for the guanaco, in place of *Lama guanacus*, must be

At 9 a.m. on March 23 there was another huge outburst. On March 22 a slight layer of dust fell at the Botanic Station, and the northern half of the heavens was shrouded in gloom, but there was no real darkness. At Georgetown a layer of ejecta about three inches deep, with stones the size of the fist, is reported, and at Tourama a layer of five inches. An estimate of the large quantities of dust which fell in the neighbourhood of the volcano can be formed from the fact, reported in the *Barbados Advocate*, that the Commissioners of Health for St. Michael at their meeting on March 23 agreed to pay 20*l.* for the removal from the streets and public ways of the volcanic dust which fell during the previous day. The dust on this occasion was very coarse, dark, and heavy, resembling that of May last rather than the impalpable grey dust of October.

FROM a note in a recent number of the *West Indian Bulletin*, it is satisfactory to learn that the planters of Dominica appreciate the assistance given them by the Imperial Department of Agriculture for the West Indies. An illustration of the useful work being done by this Department is afforded by a report on the soils of Dominica, which has just been issued by the Commissioner of Agriculture for the West Indies. The report gives the physical and chemical composition of twenty-three typical soils examined in the Government chemical laboratory of the Leeward Islands, and is the work of Mr. F. Watts, Government chemist. Samples were taken in all parts of the island, and the analyses published give the composition of both virgin and cultivated soils. In general, the soils of Dominica were found to be well furnished with available compounds of nitrogen and potash, but were almost uniformly deficient in phosphates, and in many cases also in lime. A microscopic examination of the soil minerals showed that they were much the same in all parts of the island, and further that they closely resembled the minerals found in the volcanic dust of the Mont Pelée eruptions. Mr. Watts concludes that "the recent volcanic activity is similar in character to that of the past."

ON Tuesday next, April 21, Prof. Allan Macfadyen will deliver the first of three lectures at the Royal Institution on the blood and some of its problems; on Thursday, April 23, Prof. Dewar commences a course of two lectures on hydrogen gaseous, liquid and solid; and on Saturday, April 25, Prof. Langton Douglas begins a course of two lectures on the early art of Siena. The Friday evening meetings will be resumed on April 24, when the Hon. R. J. Strutt delivers a discourse on some recent investigations in electric conduction. The discourse on May 1 will be delivered by Prof. W. J. Pope on recent advances in stereochemistry.

THE first Easter vacation party of workers at the new Biological Station, Port Erin, is a large one, including two students from Oxford, four from Owens College, two from Liverpool, one from Leeds, and also Mr. Isaac Thompson, Mr. J. Lomas, Prof. Gregg Wilson, Mr. Chadwick, and Prof. Herdman. A small class of school teachers from the Isle of Man has also been formed for "nature-study," and is being conducted in the junior laboratory and in the field by Mr. Chadwick and Prof. Herdman. The season is a late one, both in fish-spawning and in the general condition of the fauna, but, notwithstanding the unsettled weather, a good deal of collecting and field work has been carried on.

REUTER's agent at St. Petersburg reports that Captain Kozloff lectured there on April 6 on his scientific expedition to Central Asia and Tibet, lasting from 1899 to 1901. As a result of the expedition, the central steppe of the Gobi

desert and the country of Han-su and Tsaidam were traversed. Numerous meteorological observations were made, as well as a great many notes with regard to the flora and fauna of the country. After establishing a meteorological station in the Tsaidam, where the collections were left, the party started for the heights of Tibet. Captain Kozloff's expedition was at first allowed to enter the territory of the Dalai-Lama, but it was stopped on reaching districts strictly reserved. It was consequently compelled to winter for five months in the Mekong Valley. The expedition traversed and made a study of parts of Tibet which had never before been visited by Europeans, and made collections which will have an important bearing on the study of the ethnography and the flora and fauna of that country.

As already announced, the annual meeting of the Iron and Steel Institute will be held on May 7 and 8. At the opening meeting the council will present the report for the year 1902, and the president-elect, Mr. Andrew Carnegie, will deliver an address. The Bessemer gold medal for 1903 will be presented to Sir James Kitson, Bart., past-president, and the awards of the Andrew Carnegie gold medal and research scholarships for 1903 will be announced. Among the papers to be read and discussed are the following:—the alleged diffusion of silicon into iron, Mr. J. E. Stead; the influence of sulphur and manganese on steel, Prof. J. O. Arnold and Mr. G. B. Waterhouse; the open-hearth process, Lieut.-Colonel L. Cubillo; the application of electric furnaces in metallurgy, Mr. Albert Keller; the manufacture of Portland cement from blast-furnace slag, Mr. C. von Schwarz; and the effect of flue dust upon the thermal efficiency of hot blast stoves, Mr. B. H. Thwaite. Reports on research work carried out during the past year will be submitted by Messrs. O. Boudouard (Paris), W. Campbell (New York), A. Campion (Coopers Hill), P. Longmuir (Sheffield), E. Schott (Berlin), and F. H. Wigham (Wakefield), the Andrew Carnegie research scholars of 1902. The autumn meeting will be held at Barrow-in-Furness during the first week in September. An influential reception committee has been formed with His Grace the Duke of Devonshire, K.G., as chairman.

THE Easter holidays have been to a considerable extent marred by the inclement weather which has been experienced generally in the British Islands. The *Daily Weather Report* issued by the Meteorological Office on Saturday last, April 11, showed that a disturbance lay to the north of Scotland and was likely to be followed by further unsettled weather. Very cold winds, chiefly north-westerly, spread over the whole country and caused frequent sharp showers of snow and hail, with very low day temperatures on Sunday and following days, the readings on the ground at night being eight or more degrees below freezing. Much damage has been done to fruit trees in blossom, and in some cases small seeds have been blown from the fields. Bright intervals of sunshine followed the squalls, and, in places sheltered from the coldness of the winds, were very agreeable. The advance of a cyclonic disturbance from the Atlantic during Tuesday has occasioned a change of wind and milder weather.

WE have received the first part of vol. xvi. of *Mittheilungen* relating to German Protectorates. This valuable publication is so well known that it is unnecessary to say that it contains a large amount of useful information both for travellers and men of science. We wish particularly to draw attention to the care and thoroughness with which the German officials establish meteorological stations and collate and publish useful data for districts which would

be otherwise meteorologically unknown. The volume in question contains full results of rainfall or other statistics at no less than forty-two stations in German South-West Africa, and at thirty-two stations in German East Africa. In the latter Protectorate values for several years are given, with useful particulars relating to the instruments and their exposure. The work is accompanied by a very clear map of the north-western portion of Cameroon, between Riodel-Rey and Bali.

WE have received a catalogue of new experimental apparatus from the firm of E. Leybold, which describes a number of instruments suitable for general and special experimental and demonstration work. Amongst these may be noted a convenient form of hand regulated arc lamp, having an arrangement by which any one of six carbons can be used, apparatus for wireless telegraphy, selenium cells, and other apparatus for wireless telephony, &c. We also note that the firm includes in the list Poulsen's telegraphone, which was described in NATURE some time ago; this is, we presume, only an experimental apparatus, as we have not heard that the invention is sufficiently perfected yet for commercial purposes.

A METHOD of electrically locating ore deposits which has been devised by Messrs. L. Daft and A. Williams was demonstrated a short time back at the Telacre Mine in North Wales. The method is practically an application of wireless telegraphy by earth conduction. An induction coil which is used as transmitter has the terminals of the secondary connected to two metal stakes, which are pushed into the soil; radiating currents are thus produced which can be detected by a telephone connected to similar stakes. Normally, the telephonic disturbance is greatest in a line at right angles to, and bisecting, the line joining the transmitting electrodes, but the presence of ore disturbs the current distribution, and the amount of shifting of the point of maximum disturbance enables the position of the deposit to be determined. It is also said that the nature of the sounds can, in some cases, indicate the depth and mineral richness. The demonstration in Wales passed off very successfully, and it seems that the system, on further development, may possibly become of considerable assistance in prospecting for ore.

WE have received from Dr. Hubert Jansen, the editor of the trilingual technical dictionary which is being published by the Society of German Engineers, a batch of circulars relating to the publication. The object, as our readers are probably aware, is to bring out a thoroughly comprehensive vocabulary of technical terms in German, English, and French; mathematical, physical and chemical words are to be included, as if not now of technical importance they may become so at any time. Special effort is to be made to include all "trade" expressions used in particular industries, local dialectical terms, and even workmen's "slang" names for machines, &c., as these often pass in time into general use. In order to make the dictionary as complete as possible, collaboration is asked from technical men, institutions, or works; the publishers will supply note-books for jotting down technical expressions (with or without their foreign equivalents) to anyone who is willing to collaborate, and these will be collected some time next year, and collated by the editors. The editors also ask that circulars, price-lists, &c., may be sent to them, as these are a fruitful source of technical expressions. We would strongly urge all who have the time and opportunity to give what assistance they can, as there can be no question of the need for the dictionary, which will be

more valuable the more complete it is made. A little help from a larger number of collaborators is likely to be of greater use than a greater amount of work by a few whose experience must necessarily be limited to one or two branches of technical work.

PROF. C. LE NEVE FOSTER, F.R.S., in the fourth part of his general report and statistics concerning the mines and quarries of the world in 1901, provides much information concerning the relative importance of different countries in the mining industries. For instance, the total amount of coal produced in the world amounted in 1901 to 789 million tons, of which the United States yielded rather more than one-third and the British Empire rather less than that proportion; Germany's output was almost one-fifth. The United States, the British Empire, and Germany produced six-sevenths of the world's supply. Of the total output of minerals the British Empire produces about one-third of the coal, one-ninth of the copper, half of the gold one-eighth of the iron, one-fifth of the lead, one-seventieth of the petroleum, one-quarter of the salt, one-ninth of the silver, five-eighths of the tin, and one-fiftieth of the zinc. More than four and a half millions of persons are engaged in mining and quarrying at home and abroad, of whom, roughly speaking, one-fifth are employed in the United Kingdom and one-third in the British Empire.

THE Charnwood Forest rocks form the subject of a well-illustrated essay by Dr. F. W. Bennett (*Trans. Leicester Lit. and Phil. Soc.*, January). As the author remarks, he joined the excursion of the Geologists' Association under the leadership of Prof. W. W. Watts, and he has expounded in a clear and useful way the views arrived at by that geologist in his detailed survey of the area.

IN the first annual report, for 1902, of the Rhodesian Museum, Bulawayo, it is stated that the rock and mineral collections have been fully classified and arranged, and that a geological map of Southern Rhodesia, on a scale of an inch to four miles, is being compiled. The report contains a brief sketch of the geology of the country around Bulawayo, by the curator, Mr. F. P. Mennell; also a list of Rhodesian minerals.

THE Western Australian tellurides form the subject of an essay by Mr. L. J. Spencer (*Mineralog. Mag.*, February). The author observes that since 1896, when tellurides of gold were first recognised in Western Australia, these minerals have proved of the greatest importance, and the telluride mines at Kalgoorlie, in the east Coolgardie gold-field, now yield as much gold as all the remaining gold-fields in the colony. The tellurides occur as large lenticular masses and as impregnations in schistose rocks, and they are only found below a certain depth; nearer the surface, the minerals have been decomposed with the separation of native gold. At present no definite crystals of tellurides have been found, and the author suggests that cavities in the ores should be searched. He describes several tellurides, including lead telluride (altaite), which has not hitherto been recorded from Western Australia. He further brings forward evidence to show that "Kalgoorlite" and "Coolgardite" are not homogeneous minerals, but mixtures of known tellurides.

IN the *Proceedings* of the Royal Society of Victoria (vol. xv. part ii. 1903) all the subjects dealt with relate to natural history. Mr. Frederick Chapman has commenced the description of the new or little-known Victorian fossils in the National Museum at Melbourne. Mr. G. B. Pritchard continues his account of the Tertiary mollusca, and

Mr. O. A. Sayce contributes an account of the Phyllopora of Australia, including descriptions of some new genera and species. Prof. J. W. Gregory describes under the name Heathcoteian a series of phyllites and schists, with diabases, porphyrites and amphibolites, which occur along the floor of the Heathcote Valley, and form the crest of the Colbinabbin Range, about seventy miles north of Melbourne. Conflicting opinions have been expressed with regard to the age of these rocks, and even now it is uncertain whether they are Cambrian or pre-Cambrian. In Lower Ordovician times they formed an extensive land area across Central Victoria. A new genus of trilobite, *Notasaphus*, is described from the Lower Ordovician rocks, and evidence is given to show that *Dinesus* (previously described by Mr. R. Etheridge, jun.) is also a trilobite.

THE geographical distribution of fresh-water decapods forms the subject of an interesting essay by Dr. A. E. Ortmann (*Proc. Amer. Phil. Soc.*, vol. xli. No. 171). He points out that any division of the earth's surface into zoogeographical regions should not be based exclusively on the present distribution of animals. The geological history must be considered, and even then it is impossible to create any scheme that covers all cases, owing largely to the difference of the means of dispersal of the various groups of animals. In most cases the instances of "abnormal" distribution have to be traced back into the geological past to be understood properly, and the introduction of "regions" in our method is only a means of tabulating the more interesting and important facts, and not the final aim of zoogeography. The author deals fully with the geographical distribution of the fresh-water decapods, and discusses the great changes in the distribution of land and water which have modified the shapes of the continental masses since Cretaceous times. His views are clearly explained and illustrated by maps showing the "regions" of past periods, and these lead up to the "regions" of recent time, which do not differ materially from those constructed by Wallace on distinct principles. The author deals not only with the causes of present distribution, but points out reasons for the local absence of particular forms—the crayfishes and crabs, for instance, being mutually exclusive.

IN the *Publications* of the Field Colombian Museum, Dr. Millspaugh has compiled a "Flora of the Island of St. Croix." Baron Eggers published a "Flora of St. Croix and the Virgin Islands" in 1879, and the present list incorporates the plants brought together by Prof. Ricksecker of Iowa, but does not include the collections made by several Danish botanists.

THE characters and affinities of the oxlip form the subject of a small brochure, in which Mr. C. Bailey amplifies a paper read before the Manchester Field Club. The true oxlip, known distinctively as Jacquin's oxlip, is found only in certain of the eastern counties, grows in the uplands on Boulder-clay, and is associated more often with the cowslip than with the primrose. Crosses with the cowslip are rare, with the primrose more frequent, suggesting that its racial affinities are closer with the latter.

THE problem of unravelling the true relationships between various plant rusts has been taken up by Prof. J. C. Arthur in America, and in addition to papers published in the *Botanical Gazette*, this subject formed the theme of an address to the Botanical Society of America. By means of cultures extending over several seasons, the author has endeavoured to discover the second host plants on which many rusts complete a stage of their life-history, and also to determine the differences between apparently similar

forms which develop as totally different varieties. Prof. Arthur has confined his experiments mainly to the rusts which occur upon grasses and sedges.

A THIRD edition of Engler's "*Syllabus der Pflanzenfamilien*" shows some additions of which the more important are the incorporation of several paragraphs summarising the principles of systematic classification, and the introduction of a list of the more definite vegetative formations of the world. In the syllabus the changes refer mainly to points of detail, as in the ultimate subdivisions of a few of the phanerogamic families, also there has been some rearrangement of the main divisions of the lower organisms. The value of the book lies, of course, in the portion dealing with the higher plants, and objections might be offered to the arrangements of several of the cryptogamic groups. Under the Dictyotales, the occurrence of motile antherozoids demonstrated five years ago by Lloyd Williams is not yet noted.

A NEW monthly journal devoted to bacteriological research, the *Bulletin de l'Institut Pasteur*, has just been commenced. It is to be conducted by the junior staff of the Pasteur Institute, and appears to be much on the lines of the *Centralblatt für Bakteriologie*. The first number issued contains an introduction by M. Duclaux, an article by M. Roux upon microorganisms that are so minute as to be invisible, and a number of reviews of articles in current periodicals.

THE Corporation of the City of London is rightly taking part in the crusade against tuberculosis. It has for many years instituted legal proceedings against farmers, butchers and meat-salesmen for sending tuberculous meat into the City markets, or for exposing the same for sale. Since it would appear that in some cases such offences may have been due to ignorance, the Public Health Department has issued a circular describing the indications of tuberculosis in the carcase, and the symptoms of the disease in the living animal, drawn up by Dr. Collingridge and by Mr. King, the Medical Officer of Health and the Veterinary Inspector respectively.

WE have received the report of the Director of the Illinois State Laboratory of Natural History for the years 1899-1900.

THE necessity for financial assistance, if its work is to be adequately carried on and expanded, is the cry of the Committee of the Marine Biological Association of the West of Scotland, of which the report for 1902 is just to hand. It has been decided to issue an appeal for an endowment fund of 25,000*l.* "The Millport Station," according to the report, "has the almost unique distinction of being a scientific institution founded and maintained entirely by private effort, and the committee would therefore address an earnest appeal to all who have hitherto shown an interest in the station to direct their attention to this object." During the past year the opportunities offered by the Association for obtaining practical instruction in dredging and marine biology have been taken advantage of by several educational bodies. Our knowledge of the fauna of the Clyde estuary has likewise been considerably increased.

IN the report of the Lancashire Sea-Fisheries Laboratory and Sea-Fish Hatchery at Piel for 1902, Prof. Herdman makes some comments on the proposal that the British Government should take a share in the international investigation of the North Sea and its products. Prof. Herdman remarks that if those who have advised the Government to take part in it will declare distinctly that they

regard the scheme as a purely scientific investigation which may throw light on fishery problems, he is prepared to endorse their recommendation, but not otherwise. In the same report Dr. J. T. Jenkins discusses the differences between the spring and autumn broods of herring, and the question whether these are the offspring of the same parent herrings (which in that case must spawn twice in the year), or whether they belong to different races of the species, one of which breeds in the spring and the other in the autumn. The question is left undecided, although it is pointed out that the alleged differences in form between the fish of the two broods are not constant.

PROF. H. F. OSBORN has sent us a budget of extracts from our American contemporary, *Science*. In one of these articles it is proposed to divide reptiles into two main sections, Synapsida and Diapsida, according to the presence, primarily, of single or double temporal arches. From a second article it is satisfactory to learn that the splendid collection of Pampean vertebrate fossils acquired by the late Prof. Cope has been unpacked in the American Museum, and is in course of being worked out. Recent investigations, it is stated in a third, have led to the abandonment of the lake-basin theory of the origin of the Tertiary strata of the great plains. Attention is likewise drawn to the large series of vertebrates—inclusive of two mammals—from the Cretaceous of Canada, recently described by Mr. Lambe. Of considerable interest is the provisional identification of a fossil mammal from Japan, to which reference was made some time ago in our columns, with *Desmotylus*, of the later Tertiary of California.

THE Saturday afternoon excursions of the London Geological Field Class, conducted by Prof. H. G. Seeley, F.R.S., will commence on April 25. Among the localities to be visited this season will be Walton-on-the-Hill, Aylesbury, Harefield, Sevenoaks, Leighton, and Tunbridge Wells. Further particulars can be obtained from the hon. sec., Mr. R. Herbert Bentley, 33 Church Crescent, Muswell Hill, N.

THE second edition of Prof. A. Winkelmann's "Handbuch der Physik," which originally appeared in 1896, is in course of publication by the firm of J. A. Barth, Leipzig. The new edition will be published in six volumes, dealing respectively with general physics, acoustics, heat, electricity and magnetism, and optics. Each volume will be complete in itself, and the editor, Prof. Winkelmann, has obtained the assistance of many well-known men of science in Germany for various branches of physics. The first half of the volume on electricity and magnetism, which we have received, shows that the complete work will be a more detailed treatise of physics than exists at present for English-reading students.

PROF. W. A. TILDEN, F.R.S., was elected president of the Chemical Society at the annual general meeting on March 25. The retiring president, Prof. J. Emerson Reynolds, F.R.S., delivered an address, in which he directed attention to the publication of some recent reports on progress in chemical research, and urged the publication of similar digests. He urged the study of "comparative chemistry" of inorganic compounds. There were few inquiries of greater interest than those involving inorganic isomerism, which was now either completely ignored or only slightly mentioned. Polymerism, or molecular condensation, was well known to exist in many inorganic compounds, as in the oxides of nitrogen, vanadium, niobium and tantalum. Silicon showed a great analogy to carbon, and it was highly probable that some of the native silicates were benzenoid combinations of 6SiO_2 . The more familiar

cases of isomerism were the nitrites and sulphites, and isomerism had also been observed in the thiosulphates and the salts of the phosphorous acids. Attention was directed to some cobalt, platinum, and molybdenum compounds which showed this peculiarity. Another analogy between carbon and inorganic compounds was the curious and interesting catalytic action, referred to by Bredig under the title of "inorganic ferments." Colloid platinum solutions acted on many substances in the same way and under similar laws as enzymes. The whole subject was little known, but it suggested that the broader study of inorganic chemistry, especially in the light of our knowledge of the "organic" division of the science, was well worthy of much greater attention than it had received of late.

THE additions to the Zoological Society's Gardens during the past week include two Maholi Galagos (*Galago maholi*) from South Africa, presented by Captain Crosse; a Greenland Seal (*Phoca groenlandica*) from the Firth of Forth, presented by Mr. E. H. Bostock; two Lesser Kestrels (*Tinnunculus cenchris*), captured at sea, presented by Mr. L. Ovens; a Long-necked Chelodine (*Chelodina longicollis*), three Muricated Lizards (*Amphibolurus muricatus*), a Quoy's Lizard (*Lygosoma quoyi*) from Australia, a European Pond Tortoise (*Emys orbicularis*), European, presented by Mr. E. Hulton; a Purple-faced Monkey (*Semnopithecus cephalopterus*) from Ceylon, a White-crowned Mangabey (*Cercocebus oethiops*) from West Africa, a Fringed Gecko (*Uroplatus fimbriatus*), two Green Geckos (*Phelsuma madagascariense*) from Madagascar, four Derbian Zonures (*Zonarus giganteus*), a Blessbok (*Damaliscus albifrons*) from South Africa, an Antarctic Skua (*Stercorarius antarcticus*) from the Straits of Magellan, six Amboina Box Tortoises (*Cyclemys amboinensis*), a Ceylonese Terrapin (*Nicoria trifuga*, var. *ediniana*) from India, a Raven (*Corvus corax*), European, deposited; a Mouflon (*Ovis musimon*) born in the Gardens.

OUR ASTRONOMICAL COLUMN.

NOVA GEMINORUM.—Several observations of the new star announced by Prof. Turner on March 24 are contained in No. 3858 of the *Astronomische Nachrichten*.

Prof. Deichmüller, of Bonn, has looked up some old observations of the region, made during 1856, 1857 and 1858, and cannot find therein any record of an object having the position occupied by the Nova.

Prof. Hartwig (Bamberg) compared the Nova with two neighbouring stars, viz. B.D.+29° 1336 (given as magnitude 8.3) and B.D.+30° 1331 (given as magnitude 8.7), on March 26, and found that it was equal to the former and about 0.1m. brighter than the latter, whilst he records its colour as "bright orange." Two heliometer measures of the Nova's position, using the stars B.D.+29° 1342 and B.D.+29° 1307 as reference stars, gave for 1903:—

$$\alpha = 6\text{h. } 38\text{m. } 0.47\text{s.}, \delta = +30^\circ 2' 27''.0$$

and

$$\alpha = 6\text{h. } 38\text{m. } 0.46\text{s.}, \delta = +30^\circ 2' 31''.1$$

respectively.

Prof. Hartmann and Dr. Ludendorff, using the 80 cm Potsdam refractor with the No. 1 star-spectroscope, obtained a spectrum of the Nova, with three hours' exposure, on March 29. The star then appeared to be of about the ninth magnitude, and the spectrum on the plate is extremely faint.

The hydrogen line $H\beta$ appears as a bright emission line between $\lambda 4857$ and $\lambda 4881$, and the middle of the line is shifted about 8 Angström units towards the red. In the blue part of the spectrum there are many bright lines forming a band which has its maximum intensity from $\lambda 4604$ to $\lambda 4672$. The line $H\gamma$ is also a bright line, but is so extremely faint that it was measured with difficulty; it appears to extend from $\lambda 4343$ to $\lambda 4356$, and, like $H\beta$, to